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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,887	12/06/2005	Hiroshi Tada	125A 3741 PCT	1970

7590 03/24/2009  
Quinn Emanuel Urquhart Oliver & Hedges, LLP  
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EXAMINER
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RINEHART, KENNETH

ART UNIT	PAPER NUMBER
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3743

MAIL DATE	DELIVERY MODE
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03/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/539,887

## Applicant(s)

TADA ET AL.

## Examiner

KENNETH B. RINEHART

## Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 14-18, 29, 31-34 and 36-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-17 and 36 is/are rejected.
- 7) ☒ Claim(s) 18, 29, 31-34 and 37-46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36, 14-16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of du Plessis (5377220) and Dienst (2073553). Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24) and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank, wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means

further comprises an inner tube unit (5) having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal(col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a carrier gas is introduced into said storage processing tank is further provided at said material storage processing tank (29). Du Plessis teaches larger capacity hopper (3) and fed by own weight for heat and dry processing, each time the powdered or granular material (9) as finished heat and dry processing in said heat and drying chamber is discharged through said discharge port (fig. 1) for the purpose of providing increased production and reduced fabrication costs. It would have been obvious to one of ordinary skill in the art to have larger capacity hopper (3) and fed by own weight for heat and dry processing, each time the powdered or granular material (9) as finished heat and dry processing in said heat and drying chamber is discharged through said discharge port as taught by Du Plessis for the purpose of providing increased production and reduced fabrication costs. Dienst teaches integrally connected and airtight (5,4) for the purpose of facilitating the drying process and reducing the footprint of the apparatus. It would have been obvious to one of ordinary skill in the art to have integrally connected and air tight as taught by Dienst for the purpose of facilitating the drying process and reducing the footprint of the apparatus.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tada et al (6,163,976) in view of du Plessis (5377220) and Dienst (2073553) as applied to claims 14, 15,

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and 36 above, and further in view of Evans (4,294,020). Tada et al discloses a material storage processing tank including a heating and drying chamber (1) having at its lower end a discharge port (near 24) and therein a thermal conductive heating means (5), and including a hopper chamber (22) connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried; and a decompression means (27) for depressurizing the inside of said material storage processing tank, wherein said thermal conductive heating means comprises an outer tube unit having a first heater (3) provided, in a tube wall and a plurality of fins (6) for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction (figs.), wherein the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized (col. 11, lines 33-42), and wherein the powdered-or granular material stored in said hopper chamber is fed into said heating and drying chamber by gravitation accompanied by the discharge of the heated and dried powdered or granular material from said discharge port (fig. 14), said thermal conductive heating means further comprises an inner tube unit (5) having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins (7) for conducting the heat of said second heater, said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal (col. 2, lines 42-49, col. 9, line 35), wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly (12), wherein a carrier gas introduction means by which a carrier gas is introduced into said storage processing tank is further provided at said material

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storage processing tank (29). Evans teaches said hopper chamber has an opening at its upper end and an open-close cover for airtightly closing the opening, and wherein a powdered or granular material to be heated and dried is capable of being fed in said material storage processing tank by opening said open-close cover ( 14) for the purpose of closing the apparatus. It would have been obvious to one of ordinary skill in the art to modify Tada et al by including said hopper chamber has an opening at its upper end and an open-close cover for airtightly closing the opening, and wherein a powdered or granular material to be heated and dried is capable of being fed in said material storage processing tank by opening said open-close cover as taught by Evans for the purpose of closing the apparatus.

***Allowable Subject Matter***

Claims 18, 29, 31-34, 37-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication should be directed to KENNETH B. RINEHART at telephone number (571)272-4881.

/Kenneth B Rinehart/

Supervisory Patent Examiner, Art Unit 3743